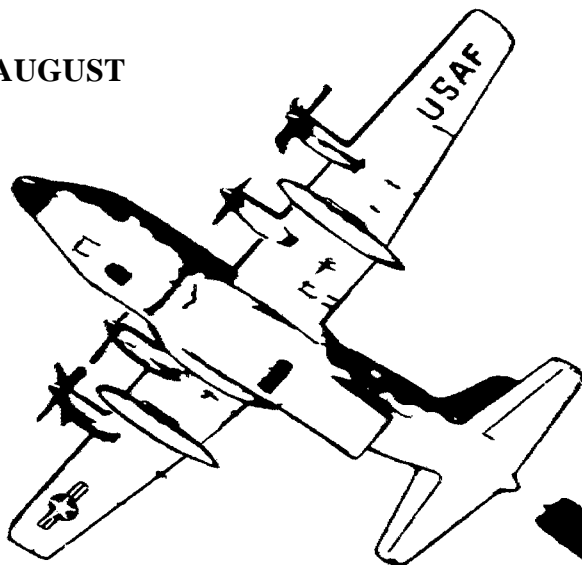


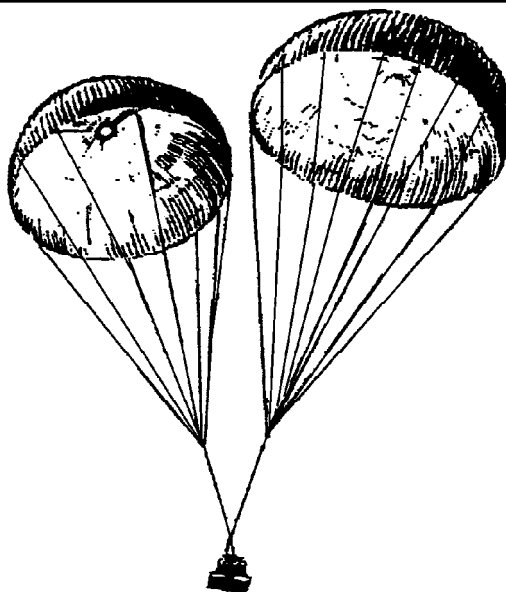
MAY - AUGUST

VOLUME II 1996



TRIENNIAL

**AIRDROP REVIEW
AND
MALFUNCTION/SAFETY
ANALYSIS**



PREPARED BY
THE US ARMY QUARTERMASTER SCHOOL
FORT LEE, VIRGINIA 23801-1502

AIRBORNE CREED

I am an Airborne trooper! A paratrooper!

I jump by parachute from any plane in flight. I volunteered to do it, knowing well the hazards of my choice.

I serve in a mighty Airborne Force—famed for deeds in war—renowned for readiness in peace. It is my pledge to uphold its honor and prestige in all I am—in all I do.

I am an elite trooper—a sky trooper—a shock trooper—a spearhead trooper. I blaze the way to far-flung goals—behind, before, above the foe's front line.

I know that I may have to fight without support for days on end. Therefore, I keep mind and body always fit to do my part in any airborne task. I am self-reliant and unafraid. I shoot true, and march fast and far. I fight hard and excel in every art and artifice of war.

I never fail a fellow trooper. I cherish as a sacred trust the lives of men with whom I serve. Leaders have my fullest loyalty, and those I lead never find me lacking.

I have pride in the Airborne! I never let it down!

In peace, I do not shirk the dullest duty nor protest the toughest training. My weapons and equipment are always combat ready. I am neat of dress—military in courtesy—proper in conduct and behavior.

In battle, I fear no foe's ability, nor underestimate his prowess, power and guile. I fight him with all my might and skill—ever alert to evade capture or escape a trap. I never surrender, though I be the last.

My goal in peace or war is to succeed in any mission of the day—or die, if needs be, in the try.

I belong to a proud and glorious team—the Airborne, the Army, my Country. I am its chosen pride to fight where others may not go—to serve them well until the final victory.

*I am a trooper of the sky! I am my Nation's best!
In peace and war I never fail. Anywhere, anytime, in anything—
I am AIRBORNE!*

IN THIS ISSUE

VOLUME II - 1996

| | |
|--|------------|
| Preface | ii |
| Change of Address | ii |
| Reports and Analyses | iii |
| Cargo Malfunction Reports and Analyses | 1 |
| Personnel Malfunction Reports and Analyses | 67 |
| Summary of Supply and Equipment Drops | 98 |
| Summary of Personnel Parachute Jumps | 98 |
| Summary of Personnel Parachute Malfunctions | 99 |
| Injuries Occurring on Parachute Operations as Reported on DA Form 285 | 99 |
| Aircraft Malfunctions | 100 |
| Hot Poop | 101 |

TAR&M/SA VOL II

PREFACE

The airdrop review and malfunction/safety analysis is published by the US Army Quartermaster School in hopes that by “passing the word” the malfunction rate within the Armed Forces may be minimized. The review and analysis in this issue covers the period 1 May - 31 August 1996.

POC AND MAILING ADDRESS

The POC for Airdrop Malfunction Reports, Monthly Airdrop Summary Reports, and any other information concerning the Airdrop Review and Malfunction/Safety Analysis is Mr. Roger Hale. All correspondence for the above reports and analysis should be addressed to:

**AIRBORNE AND FIELD SERVICES DEPARTMENT
ATTN MR ROGER HALE
USA QUARTERMASTER CENTER AND SCHOOL
1010 SHOP ROAD
FORT LEE VA 23801-1502**

CHANGE OF ADDRESS

To change your mailing address, please send the mailing label along with your new address to:

**AIRBORNE AND FIELD SERVICES DEPARTMENT
ATTN MR ROGER HALE
USA QUARTERMASTER CENTER AND SCHOOL
1010 SHOP ROAD
FORT LEE VA 23801-1502**

REPORTS AND ANALYSES

The Malfunction Review Board met at Fort Lee on 23 - 24 October 1996. A breakdown of the areas in which malfunctions occurred from 1 May through 31 August 1996 follows:

| <u>CATEGORY</u> | <u>QUANTITY</u> |
|-------------------------------------|-----------------|
| Containers/CRRC | 18 |
| Platforms LVAD | 14 |
| Personnel | 15 |
| Standard Airdrop Training Bundle | 2 |

All DD Forms 1748-2 (Airdrop Malfunction Report (Personnel-Cargo)) are reviewed, and any identifying information is removed. Block 24 is annotated to include both Army and Air Force references if only one is given. No grammatical editing is done to the reports.

CARGO MALFUNCTION REPORTS AND ANALYSIS

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------|--------------------------------|------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 475 AGL | 10. ACFT SPEED (Knots) 140 | 11. DZ ELEVATION (Feet) 372 | 12. SURFACE WINDS (Knots) 190/6 | 13. VISIBILITY (Feet/Miles) Unlimited |

| III. CARGO | | | | | |
|--|--|--|---------------------------------------|--|-----------------|
| 23. TYPE LOAD AND WEIGHT CDS/5755 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 Chapter 9 | 25. AERIAL DELIVERY SYSTEM USED | | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> | CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS | CVR | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-12E/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT Pulley: FS 550 Gate: FS 627 | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)
 This malfunction occurred on a day Formal Training Unit (FTU) mission dropping two sticks of three CDS bundles each on separate passes across the DZ. The G-12E parachute on the second bundle that exited the aircraft on the second pass failed to open. The load was destroyed; there was no injury to personnel or any damage to the aircraft.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)
 An investigation of the load at the DZ revealed the following facts: The rigging of the G-12E was correct. The only portion of the parachute to deploy from the bag was the suspension line stowage panel. All three bag closing ties broke. Eyewitness statements could not eliminate the possibility of its deploying on impact with the ground. Also, the stowage panel had one turn around the riser. As the bundle exited the aircraft, the 68-inch pilot parachute opened, but the G-12E only floundered above the bundle. All of the 80-lb ties that secure the G-12E to the bundle were correct and did break.

CONTINUED ON NEXT PAGE

ANALYSIS: 1

WHAT WAS THE MALFUNCTION?

The G-12E cargo parachute failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. If the G-12D deployment bag was used, then the locking stows may have been excessively long.
2. If the G-12E deployment bag was used, the locking stows may not have been modified, creating a tight fit for the stows and locking the bag.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Emphasize correct packing procedures and attention to detail while performing the pack-in-process inspections.
2. Retransmit safety of use message to satellite units to ensure modification is done.
3. Knowing which bag was used would have been helpful in analyzing the malfunction.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------|-------------------------------------|---------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 505 AGL | 10. ACFT SPEED (Knots) 130 | 11. DZ ELEVATION (Feet) 1040 MSL | 12. SURFACE WINDS (Knots) 10 | 13. VISIBILITY (Feet/Miles) 10+ Miles |

| III. CARGO | | | | |
|--|---|---------------------------------------|-------------------------------------|---|
| 23. TYPE LOAD AND WEIGHT CDS 1050 lbs | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> | CDS RELEASE GATE |
| | | NO. PLATFORMS | NO. CONTAINERS | OTHER (Explain) |
| | | 1 | Non-CVR | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-12D/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE | 29. LENGTH OF REEFING LINE | 30. POSITION OF LOAD IN AIRCRAFT F/S 501 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light, the retriever activated for approximately 1.5 seconds and the gate failed to cut. CDS was rigged utilizing pulley location 530. The loadmasters stated that on preflight the winch tested at 3.5 seconds. During the investigation, the winch tested at 3 or more seconds each time. The delay-relay (timer) operated normally. Measurements were taken between beaded chains. The bottom chain was 4 3/4 and the top chain was 1/32 of an inch longer. A measurement was then taken between the setscrew and microswitch. With slack on the cable, the distance was .080 thou, and with tension on the cable routed through the pulley, it measured .085 thou., well within limitations. The plastic water drums used were partially caved in but we do not suspect this as being the cause. The electric shop said delay-relay mechanism has been known to fluctuate between cut-off times.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Information not provided.

CONTINUED ON NEXT PAGE

ANALYSIS: 2

WHAT WAS THE MALFUNCTION?

Release knife failed to cut the release.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Limit switch could have malfunctioned.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Recommend using the old procedures of load testing the system with two turns single 1/4-inch cotton webbing to the deck ring.
2. Use a load spreader to prevent the drums from caving in during flight or at release.
3. Suggest 650-feet AGL for the G-12D.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------|-------------------------------------|-----------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 500' AGL | 10. ACFT SPEED (Knots) 140 | 11. DZ ELEVATION (Feet) 410' ASL | 12. SURFACE WINDS (Knots) Calm | 13. VISIBILITY (Feet/Miles) Unrestricted |

| III. CARGO | | | | | |
|--|--|--|-------------------------------------|---|-----------------|
| 23. TYPE LOAD AND WEIGHT CDS/860 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 FM 10-550/ TO 13C7-22-71 | 25. AERIAL DELIVERY SYSTEM USED | | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> | CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS N/A | NO. CONTAINERS 6 | CVR | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-12E/1 EA | 28. SIZE EXTRACTION/RELEASE PARACHUTE 68-Inch Pilot Parachute | 29. LENGTH OF REEFING LINE | 30. POSITION OF LOAD IN AIRCRAFT 1 of 3 Right Side F.S. 639 | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

First load on the left side exited the aircraft. This load then exited from the right side. The pilot parachute deployed. However, the G-12E did not pull off the A-22 until approximately 175 feet from the ground. The G-12 never deployed and the bag closing ties were not broken. The load, replicated stingers, was destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Because the G-12 finally pulled off the A-22 prior to impact, the G-12 securing ties could not be inspected. One cause for the malfunction could be that the G-12 securing ties could have possibly been secured to the hourglass tie. When the pilot parachute deployed and attempted to pull the G-12 off the A-22, the hourglass tie (1/2-inch tubular nylon) could have stretched or become loose causing a delay in breaking the G-12 parachute securing ties. Reasons for the G-12 not breaking the bag closing ties after the G-12 finally did pull away could have been the loss of the initial force or jolt to break those ties. In addition, the left secondary bag closing tie was not very tight. Inspection of the pilot parachute revealed no damage.

CONTINUED ON NEXT PAGE

ANALYSIS: 3

WHAT WAS THE MALFUNCTION?

The G-12E cargo parachute failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Parachute may not have been correctly secured to the load.
2. Possible misrouted bundle.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Not enough information to completely analyze.
2. Place greater emphasis on inspection procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------------|--------------------------------------|--|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT G-222 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 650' AGL | 10. ACFT SPEED (Knots) 120 KNOTS | 11. DZ ELEVATION (Feet) 4226' MSL | 12. SURFACE WINDS (Knots) 050 @ 5 KNOTS | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|---|---|--|--|---|
| 23. TYPE LOAD AND WEIGHT HIGH-VELOCITY CDS/850# | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS 1 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 CONTAINER | 27. TYPE PARACHUTE AND NUMBER 26-FOOT RING SLOT/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT 12.5 METERS |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The load exited the aircraft normally. However, the 26-foot ring slot parachute never deployed. The water barrel load was totally destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The 26-foot ring slot parachute was rigged with a breakaway static line. The static line was properly attached to the anchor cable clevis with gutted type III nylon cord and taped IAW TO 1C-130A-9. Upon investigation of the mishap load, it was found that the parachute 80-pound closing ties were still intact. The bag closing ties were tied properly. Suspected cause was that the gutted type III nylon cord broke prior to overcoming the 80-pound parachute restraint tie and 80-pound closing ties simultaneously.

CONTINUED ON NEXT PAGE

ANALYSIS: 4

WHAT WAS THE MALFUNCTION?

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing, This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------------|--------------------------------------|--|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 650 AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 4226' MSL | 12. SURFACE WINDS (Knots) 250 @ 8 KNOTS | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|--|---------------------------------------|--|
| 23. TYPE LOAD AND WEIGHT HIGH-VELOCITY CDS 850 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> | CDS RELEASE GATE |
| | | NO. PLATFORMS | NO. CONTAINERS 1 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 Container | 27. TYPE PARACHUTE AND NUMBER 26-foot Ring Slot - One | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 680 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light, the load exited the aircraft normally. The 26-foot ring slot parachute did not deploy. The training load of plastic water barrels was totally destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The 26-foot ring slot parachute was rigged for breakaway static line. The gutted type III nylon tie was made properly and taped. Investigation of the load on the DZ revealed that all 80-pound bag closing ties were correct even though they were broken upon impact with the ground. Suspect that the gutted type III nylon tie broke prior to the bag closing ties, causing the load to freefall to the ground.

CONTINUED ON NEXT PAGE

ANALYSIS: 5

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing. This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-----------------------------------|---------------------------------|-------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-141B | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 600 AGL | 10. ACFT SPEED (Knots) 125 KIS | 11. DZ ELEVATION (Feet) 1086 | 12. SURFACE WINDS (Knots) 10 KIS | 13. VISIBILITY (Feet/Miles) UNLIMITED |

| III. CARGO | | | | |
|--|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT SIMULATED AMMO 1200 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS 4 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-12D/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT 3 OF 4 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The container exited normally. The 68-inch pilot parachute elongated and separated from the G-12D cargo parachute. This prevented the G-12D from elongating and inflating. The A-22 container and the G-12D impacted the ground which resulted in minor/repairable damage. The 68-inch pilot parachute was undamaged. Several ammo boxes filled with sand were destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

An inspection of the G-12D and 68-inch pilot parachute revealed that the 111-inch deployment line of the 68-inch pilot parachute was not connected to its connector link. This caused the 68-inch pilot parachute to separate from the G-12D cargo parachute. The connector link was found attached to the bridle assembly of the G-12D deployment bag with both screws inserted. The Army/Air Force Joint Airdrop Inspectors and Loadmaster improperly inspected the 111-inch deployment lien.

CONTINUED ON NEXT PAGE

ANALYSIS: 6

WHAT WAS THE MALFUNCTION?

The 68-inch pilot parachute failed to deploy the G-12D cargo parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

The 111-inch deployment line was not connected to the G-12's bridle by the L-bar connector link.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure both the loops of the deployment line and the bridle are attached by the L-bar link and check the procedure during the final rigger inspection and the JAI.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|---|-------------------------------------|-------------------------------------|--|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 500 FOOT AGL | 10. ACFT SPEED (Knots) 140 KNOTS | 11. DZ ELEVATION (Feet) 335 FEET | 12. SURFACE WINDS (Knots) 2-5 KNOTS | 13. VISIBILITY (Feet/Miles) Unrestricted |

| III. CARGO | | | | |
|--|---|--|--|---|
| 23. TYPE LOAD AND WEIGHT CDS 1,925 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) CVR |
| | | NO. PLATFORMS | NO. CONTAINERS 4 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-12 X 1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE . 68-Inch Pilot Parachute | 29. LENGTH OF REEFING LINE | 30. POSITION OF LOAD IN AIRCRAFT Last Load on Right Side to Exit |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

During deployment phase of the pilot parachute, four suspension lines broke free from the canopy causing the pilot parachute not to deploy the main canopy. The load was destroyed (replicated 102mm boxes).

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Inspection of the pilot parachute revealed taht the suspension lines were not sewn down. The zig zag stitching over the lines was 1/2-inch wide so that the stitch went across the suspension line and not into the line. The lines pulled out and the stitching remained intact and unbroken on three lines. The other four lines were partially stitched down. Information on the parachute is DOM-9/93, PN 53E6803-1, and DAAK01-92-C-0127. A thorough 100 percent TRI of this parachute would have prevented this malfunction. All other pilot parachutes were inspected and none were found deficient.

CONTINUED ON NEXT PAGE

ANALYSIS: 7

WHAT WAS THE MALFUNCTION?

The 68-inch pilot parachute failed to properly inflate and deploy the G-12 cargo parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Damage to 68-inch pilot parachute during deployment.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Perform a 100 percent TRI before putting air items in service.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|------------------------------------|----------------------------------|-------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 450 AGL | 10. ACFT SPEED (Knots) 130 KIAS | 11. DZ ELEVATION (Feet) 1424' | 12. SURFACE WINDS (Knots) 240/10 | 13. VISIBILITY (Feet/Miles) UNLIMITED |

| III. CARGO | | | | |
|--|---|---------------------------------------|--|--|
| 23. TYPE LOAD AND WEIGHT A-22 Training CDS Bundle/1050 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-12D | 28. SIZE EXTRACTION/RELEASE PARACHUTE | 29. LENGTH OF REEFING LINE | 30. POSITION OF LOAD IN AIRCRAFT FS 430 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light, the static line retriever winch operated for approximately 1 second and prematurely shut off. The gate failed to cut. The 80-pound cotton webbing safety tie on the guillotine knife also failed to cut.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Upon investigation of the CDS system, it was noted that the timer and retriever beaded chains were within tolerances. The retriever was used for an earlier drop at FS 550 with no problem. The winch was tested using two turns single 80-pound cotton webbing attached to a tiedown ring. The winch failed to cut the tie using the side cut at FS 430.

CONTINUED ON NEXT PAGE

ANALYSIS: 8

WHAT WAS THE MALFUNCTION?

Release knife failed to cut the release gate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Limit switch could have malfunctioned.
2. Excessive slack in the release gate by the caved in drums.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Recommend using the old procedures of load testing the system with two turns single 1/4-inch cotton webbing to the deck ring.
2. Use a load spreader to prevent the drums from caving in during flight or at release.
3. Suggest 650 feet AGL for the G-12D.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|--------------------------------|-------------------------------|---------------------------------|---------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT MC-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 250 | 10. ACFT SPEED (Knots) 200 | 11. DZ ELEVATION (Feet) 1175 | 12. SURFACE WINDS (Knots) 220 @ 10 | 13. VISIBILITY (Feet/Miles) Unlimited |

| III. CARGO | | | | |
|--|--|--|---------------------------------------|--|
| 23. TYPE LOAD AND WEIGHT HSSLADS/ 370 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-542/ TO 13C7-51-21 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | CDS RELEASE GATE | OTHER (Explain) HSSLADS |
| | | NO. PLATFORMS | NO. CONTAINERS | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-7A | 27. TYPE PARACHUTE AND NUMBER 22 Ft Ring Slot | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT #1 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Bomb rack failed to release electrically or manually on HSSLADS. After ramp and door were closed and lock and tension was off of the sling, the bomb rack released. The bundle did not leave the aircraft. Bomb rack was inspected prior to flight.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The "D" rings jammed in locking slots on MA4A bomb rack which stopped the bomb rack from releasing the load. After tension was released from the sling, the bomb rack then released. The bomb rack was inspected and tested with no defects noted.

CONTINUED ON NEXT PAGE

ANALYSIS: 9

WHAT WAS THE MALFUNCTION?

HSLLADS bundle did not release from the bomb rack.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. The bomb rack did not release.
2. The "D" rings jammed into the locking slots. No other cause was determined.
3. The bomb rack worked fine in pre- and post-testing.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Continue pre- and post-tests.
2. Collect data to see how broad the problem is.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|--|-------------------------------|--------------------------------|--------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-17A | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 800 Ft. AGL | 10. ACFT SPEED (Knots) 145 | 11. DZ ELEVATION (Feet) 550 | 12. SURFACE WINDS (Knots) 190 @ 5 | 13. VISIBILITY (Feet/Miles) 10+ Miles |

| III. CARGO | | | | |
|--|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT Training Load 1000 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS N/A | NO. CONTAINERS 1 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 Container | 27. TYPE PARACHUTE AND NUMBER One G-12E | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT Fuselage Station 1070 Right |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

All aircraft operations were normal up until the "green light", when the release gate mechanism (RGM) failed to release the gate by both the computer and the CDS back up switch. Malfunction procedures were initiated and completed without incident. No damage incurred.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

After landing, the aircraft and load were inspected and it was determined that the GRM worked electrically, but failed to release the gate because the forward restraint strap was resting on the GRM rocker arm, thus preventing it from rotating. This cause was confirmed by duplicating the malfunction several times during the investigation. The aircrew performed the rigging procedures correctly according to the technical orders and no one has encountered this problem before. It was noted that the TOs for the C-17A are still interim. It was determined that no aircrew errors were committed. Also, no problem existed with the aircraft or aircraft equipment. Recommend while performing after loading JAI, make sure nothing comes in contact with the GRM. A publication change request has been submitted for TO 1C-17A-9 to add a note to prevent anything from coming in contact with the GRM while it is rigged for release.

CONTINUED ON NEXT PAGE

ANALYSIS: 10

WHAT WAS THE MALFUNCTION?

Gate release mechanism (GRM) failed to release the gate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

The forward restraint strap was resting on the GRM rocker arm.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure nothing comes in contact with the GRM.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 400' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 656 FEET | 12. SURFACE WINDS (Knots) 260/7 | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT CDS 750 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) NON-CVR |
| | | NO. PLATFORMS | NO. CONTAINERS 1 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-14/2 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 500 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

CDS exited the aircraft in a normal manner. Both of the parachutes fully extracted from their deployment bags. One of the G-14s fully inflated. The other G-14 separated from the CDS load. The CDS load was not damaged.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

After an investigation, it was found that the 120-inch connector snap failed. The stitching which formed a loop at each end of this strap had pulled apart, thus causing the parachute to separate from the CDS load. The stitching did not appear to be dry rotted.

CONTINUED ON NEXT PAGE

ANALYSIS: 11

WHAT WAS THE MALFUNCTION?

One of the two G-14 parachute clusters separated from the bundle.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Failure of the sewn portion of the 120-inch connector strap.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Not enough information is provided to determine age, condition, or construction of the 120-inch connector strap. Recommend inspection of all air items before use.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------------|---------------------------------|------------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 400' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 656' | 12. SURFACE WINDS (Knots) 220/9 | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT CDS 750 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) NON-CVR |
| | | NO. PLATFORMS | NO. CONTAINERS 1 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER G-14/2 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 500 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

CDS load exited the aircraft in a normal manner. Both of the parachutes were fully extracted from their deployment bags. One of the G-14s fully inflated, the other did not inflate. The CDS was not damaged.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The suspension lines were not tangled and the canopy was intact. The most apparent reason for the parachute failure was air starvation.

CONTINUED ON NEXT PAGE

ANALYSIS: 12

WHAT WAS THE MALFUNCTION?

One of the two G-14 cargo parachutes clustered and failed to inflate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Not enough information. Possible air starvation.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Use the G-12E single parachute system for A-22s.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|---|-------------------------------------|-------------------------------------|--|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 425 AGL FEET | 10. ACFT SPEED (Knots) 125 KNOTS | 11. DZ ELEVATION (Feet) 320 FEET | 12. SURFACE WINDS (Knots) 0-2 KNOTS | 13. VISIBILITY (Feet/Miles) Unknown (night) |

| III. CARGO | | | | |
|---|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT A-22 (MRE) 1200 LB | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS N/A | NO. CONTAINERS 3 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER CVR skid (48 x 48) A-22 CDS | 27. TYPE PARACHUTE AND NUMBER G-12E x 1. | 28. SIZE EXTRACTION/RELEASE PARACHUTE 68-Inch Pilot Parachute | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT 1st of 3 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Extraction phase was normal. During recovery phase, the 68-inch pilot parachute separated from the bridle assembly of the G-12E deployment bag. The G-12E failed to elongate. The load consisting of MREs was destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

After a thorough investigation, it was discovered that the connector link (L-bar) was still attached to the bridle assembly of the G-12E deployment bag. The 68-inch pilot parachute was never recovered. The ADS's conclusion is that the 111-inch deployment line of the 68-inch pilot parachute was detached from the L-bar connector, therefore causing the malfunction.

CONTINUED ON NEXT PAGE

ANALYSIS: 13

WHAT WAS THE MALFUNCTION?

The 68-inch pilot parachute failed to deploy the G-12D cargo parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

The 111-inch deployment line was not connected to the G-12's bridle by the L-bar connector link.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure both the loops of the deployment line and the bridle are attached by the L-bar link and check the procedure during the final rigger inspection and the JAI.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|------------------------------------|--------------------------------------|---|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT KC-130R | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 700' AGL | 10. ACFT SPEED (Knots) 130 KNOT | 11. DZ ELEVATION (Feet) 1542' MSL | 12. SURFACE WINDS (Knots) 190 @ 15 KNOTS | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT HIGH VELOCITY CDS/ 850 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS One | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 CONTAINER | 27. TYPE PARACHUTE AND NUMBER 26' RING SLOT/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 700 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The load exited the aircraft normally. The 26-foot ring slot parachute never deployed. The training load was totally destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The DZ malfunction NCO noted that when the CDS exited the aircraft, the breakaway tie of gutted 550 cord had broken prior to the parachute deploying. Upon investigation, it was noted that the parachute restraint tie of 1/4-inch cotton, the riser storage ties (ticket no. 5, IAW MSG MAM-ATCOM 96-15) and the canopy stowage tie were not broken until impact with the ground. The breakaway tie was tied properly to clevis on the anchor cable.

CONTINUED ON NEXT PAGE

ANALYSIS: 14

WHAT WAS THE MALFUNCTION?

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing, This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------------|--------------------------------------|--|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT KC-130R | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 700' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 4446' MSL | 12. SURFACE WINDS (Knots) 225 @ 5 KNOTS | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|---|--|--|
| 23. TYPE LOAD AND WEIGHT HIGH-VELOCITY CDS/ 850 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS One | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 CONTAINER | 27. TYPE PARACHUTE AND NUMBER 26' RING SLOT/1 | 28. SIZE EXTRACTION/RE-LEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 700 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)
Load exited the aircraft normally. The 26-foot ring slot parachute never deployed. The training load was totally destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)
The 26-foot ring slot parachute was rigged for breakaway static line. The gutted type III nylon cord tie was tied properly and taped. Investigation of load on DZ revealed that all bag closing ties were correct and were broken on impact with the ground. Suspect that the gutted type III nylon tie broke prior to breaking the 80-pound parachute restraint tie, causing the load to freefall to the ground.

CONTINUED ON NEXT PAGE

ANALYSIS: 15

WHAT WAS THE MALFUNCTION?

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing, This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------|------------------------------------|-------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 650 AGL | 10. ACFT SPEED (Knots) 140 | 11. DZ ELEVATION (Feet) 550 MSL | 12. SURFACE WINDS (Knots) 050/15 | 13. VISIBILITY (Feet/Miles) 7 MILES |

| III. CARGO | | | | |
|--|---|--|--|--|
| 23. TYPE LOAD AND WEIGHT CDS/950 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 CHAPTER 10 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS 5 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 | 27. TYPE PARACHUTE AND NUMBER 26' Slot Ring High Velocity | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT Pulley: FS 617 Gate: FS 641 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The last bundle on a 5-bundle mass CDS exited the aircraft normally. The 26-foot ring slot parachute opened after the load hit the ground and rolled over.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The five cord ties broke on exit (suspension lines deployed), but the 80-pound tie did not break until after the load hit the ground. The parachute came out of the bay after impact.

CONTINUED ON NEXT PAGE

ANALYSIS: 16

WHAT WAS THE MALFUNCTION?

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing, This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------------|--------------------------------------|--|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 700' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 1542' MSL | 12. SURFACE WINDS (Knots) 330 @ 5 KNOTS | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|--|---------------------------------------|--|
| 23. TYPE LOAD AND WEIGHT HIGH-VELOCITY CDS/850 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | <input checked="" type="checkbox"/> | CDS RELEASE GATE |
| | | NO. PLATFORMS | NO. CONTAINERS | OTHER (Explain) |
| | | One | | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 Container | 27. TYPE PARACHUTE AND NUMBER 26' Ring Slot/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE N/A | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 700 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The load exited the aircraft normally. The 26-foot ring slot parachute did not deploy. The training load was totally destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The 26-foot ring slot parachute was rigged for breakaway static line. The gutted type III nylon cord was tied properly and taped. Reports from the DZ indicated that the gutted type III nylon broke prior to breaking the parachute restraint tie, causing the load to freefall to the ground. Impact with the ground caused all restraint and bag closing ties to break.

CONTINUED ON NEXT PAGE

ANALYSIS: 17

WHAT WAS THE MALFUNCTION?

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing, This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-----------------------------------|--------------------------------------|--|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 700' AGL | 10. ACFT SPEED (Knots) 130 KTS | 11. DZ ELEVATION (Feet) 1542' MSL | 12. SURFACE WINDS (Knots) 330 @ 5 KTS | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|--|---|---|--|--|
| 23. TYPE LOAD AND WEIGHT HIGH-VELOCITY CDS/850 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-500-3/ TO 13C7-1-11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input type="checkbox"/> DUAL RAIL | <input checked="" type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS | NO. CONTAINERS ONE | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER A-22 Container | 27. TYPE PARACHUTE AND NUMBER 26' Ring Slot/1 | 28. SIZE EXTRACTION/RELEASE PARACHUTE NA | 29. LENGTH OF REEFING LINE NA | 30. POSITION OF LOAD IN AIRCRAFT FS 700 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The load exited the aircraft normally. The 26-foot ring slot parachute did not deploy. The training load was totally destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The 26-foot ring slot parachute was rigged for breakaway static line. The gutted type III nylon cord was tied properly and taped. The DZ malfunction NCO stated that the gutted type III nylon tie broke prior to breaking the 80-pound parachute restraint tie, causing the load to freefall to the ground. All bag closing ties were tied until the load impacted the drop zone.

CONTINUED ON NEXT PAGE

ANALYSIS: 18

WHAT WAS THE MALFUNCTION?

26-foot ring slot high-velocity parachute did not deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Premature breaking of the gutted 550 cord at the G-13 clevis.
2. Parachute restraint tie was made with triple 1/4-inch cotton webbing, This is not in accordance with FM 10-500-3, chapter 8.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Implement the most recent changes to the field manual and rig according to those procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130H | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 800 AGL | 10. ACFT SPEED (Knots) 140 KNOTS | 11. DZ ELEVATION (Feet) 1790 FEET | 12. SURFACE WINDS (Knots) 15 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED |

| III. CARGO | | | | |
|---|--|--|---|---|
| 23. TYPE LOAD AND WEIGHT MASS SUPPLY 2850 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | NO. CONTAINERS | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER 8' TYPE V | 27. TYPE PARACHUTE AND NUMBER 2/G-12E | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15 FOOT | 29. LENGTH OF REEFING LINE 53 FEET | 30. POSITION OF LOAD IN AIRCRAFT 1 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The heavy equipment extracted normally. However, during the deployment phase, only one main parachute opened properly. As a result, the heavy equipment impacted the DZ at a high velocity. Damage to the platform, M-1 release, and the EFTC actuator was extensive.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

During an inspection of the G-12E deployment bag, it was discovered that the bag stowage flap separated from the main bag body. This caused the risers to become entangled and not open properly. Reason for the separation of the deployment bag was due to material failure.

CONTINUED ON NEXT PAGE

ANALYSIS: 19

WHAT WAS THE MALFUNCTION?

In a cluster of two G-12E parachutes, only one inflated.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Incorrect locking stow ties.
2. Bag dry rot
3. Poor quality control procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Perform proper inspection of equipment.
2. Adhere to proper packing procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------------|------------------------------------|--------------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) UNKNOWN | 10. ACFT SPEED (Knots) 140 KNOTS | 11. DZ ELEVATION (Feet) UNKNOWN | 12. SURFACE WINDS (Knots) 4 KNOTS | 13. VISIBILITY (Feet/Miles) ZERO (0) |

| III. CARGO | | | | |
|---|---|--|---|--|
| 23. TYPE LOAD AND WEIGHT 130G 36,640 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-573/ TO 13C7-27-141 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | DUAL RAIL | CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS N/A | NO. CONTAINERS N/A | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V 28-FOOT | 27. TYPE PARACHUTE AND NUMBER G-11C/8 EA | 28. SIZE EXTRACTION/RELEASE PARACHUTE 60 FOOT 6-Loop DBL 28-FOOT | 29. LENGTH OF REEFING LINE 10 Foot Type IV Coreless Nylon | 30. POSITION OF LOAD IN AIRCRAFT 1 of 1 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Night vision devices were used, but low cloud cover reduced visibility. After the 130G landed on the DZ, an on-site inspection was conducted. During the inspection, there were four of eight G-11C canopies were found in the immediate vicinity of the 130G. Two canopies were found fully elongated, as if they were the only ones that were inflated during the decent. These canopies were found elongated approximately 150 meters away from the 130G. The final two were discovered approximately 300-400 meters from the 130G. A technical rigger inspection was conducted on each G-11C parachute and found the following damage on each:

- #1. Lines 28-90 cut/severed at multiple lengths, gore 89 blown from lower to upper lateral band, multiple tears/rips, various lines broken at V-tabs.
- #2. Lines 32-55 cut/severed, damaged area on section 5 of the canopy.
- #3. Lines 1-65, 105-120 cut/severed with canopy damage.
- #4. Only line 120 broken.
- #5. Lines 14-37, 120, 1-12 cut/severed.
- #6. Lines 30-41 cut/severed.
- #7. Lines 14-28 cut/severed.
- #8. No damage.

CONTINUED ON NEXT PAGE

Block 31. Continued

All eight parachute connectors were found in the immediate vicinity of the M-2 release and concluded that the operation of the M-2 release was normal after impact. An inspection on each 120-foot Type XXVI riser extension revealed extensive damage to only three of the eight 120-foot Type XXVI riser extensions. Riser extension damage are as follows:

- #1. Stress breakage at the looped end (inside ply only) on both ends, discovered a fray approximately 7 inches long. Outside ply had stress breakage approximately 75 feet from looped end.
- #2. Severely burned and cut at the parachute connector, stress breakage at the looped end on both plys. Found one piece of Type XXVI that connected the breakage on the outside ply. This piece of Type XXVI nylon was approximately 1.5 feet long. There was an area approximately 4 inches from the looped end of nylon fused together on the parachute connector end. Approximately 24.5 feet from the looped end found stress breakage on the outside ply. There was also stress breakage at the opposite end. The parachute connector was not attached.
- #3. Stress breakage at both ends to include multiple abrasions. The parachute connector was not attached. There was a nut of one parachute connector missing, possibly caused by the riser extension plies rubbing/unraveling.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The following analogy and summary is given as possible causes of the malfunction. All findings indicated that three parachutes separated from the M-2 release, because of the riser extension failure. The separation may have been caused by either the M-2 release or riser extensions themselves making contact with the load during the extraction/deployment phase. As a result of contact, these risers were either cut or burned separating the parachutes, therefore leaving only five canopies attempting to suspend and recover the load. The on-site appearance of the parachutes at the vicinity of the load suggested they elongated, but never inflated. The appearance is consistent with parachutes trying to inflate and not having enough time because they were dropped lower than the required AGL. THIS LOAD'S DROP ALTITUDE IS 1350 FEET AGL IAW FM 10-500-2. It is unknown whether or not the M-2 release and/or riser extension made contact with the load. It is also possible that another load being extracted at about/in the same vicinity may have come in contact with the canopies causing them to lose lift capability resulting in the hard impact. In conclusion, the C-130 airdropping the 130G was flying in the 15th position of a 19-ship formation. It is also known they were airdropping equipment at 600 feet AGL.

ANALYSIS: 20

WHAT WAS THE MALFUNCTION?

1. Parachute separation causing damage to remaining parachutes.
2. Three of eight G-11C parachutes separated, causing damage to the remaining five.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Bad air from mass fly pattern.
2. Contact with another airdrop load.
3. Risers entangled with load.
4. Air starvation causing five parachutes to support total load.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Better spacing of aircraft.
2. Better quality control by rigger of slings and equipment.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------|--------------------------------|------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1100 MSL | 10. ACFT SPEED (Knots) 140 | 11. DZ ELEVATION (Feet) 372 | 12. SURFACE WINDS (Knots) 200/9 | 13. VISIBILITY (Feet/Miles) 6 MILES |

| III. CARGO | | | | |
|--|--|--|---|--|
| 23. TYPE LOAD AND WEIGHT HE MASS LOAD 2865 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 CHAPTER 11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V | 27. TYPE PARACHUTE AND NUMBER G-12E/2 | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15 EFTC | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT FS 580 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

This malfunction occurred on a day Formal Training Unit (FTU) local mission dropping a heavy equipment mass load. At green light, the extraction parachute released properly from the aircraft and deployed both G-12E parachutes out of their deployment bags. One of the G-12s failed to open. There was no damage to the aircraft, equipment or injury to personnel.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

An investigation of the G-12E parachute revealed the following facts: At the DZ, the G-12E deployment bag of the malfunctioning parachute was missing the locking stow flap and the suspension line stowage panel. This deployment bag was the old style G-12D bag manufactured after 1983, and is guessed to have had approximately 50 drops. The missing bag parts were found still locked together with the locking stow loops caught in the locking slots. It was located around and just above the bottom of the canopy skirt. The locking stow loops had evidence of tearing away from the flap and this allowed the loops to elongate and lock in place. This induced a smaller opening in the flaps that cover the canopy, and caused the bag to malfunction.

CONTINUED ON NEXT PAGE

ANALYSIS: 21

WHAT WAS THE MALFUNCTION?

One of two G-12E parachutes failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Material failure.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Better inspection of equipment.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|---------------------------------------|-------------------------------|---------------------------------|-------------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-141B | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 800 FT AGL | 10. ACFT SPEED (Knots) 150 | 11. DZ ELEVATION (Feet) 1532 | 12. SURFACE WINDS (Knots) 070/08 | 13. VISIBILITY (Feet/Miles) 7+ MILES |

| III. CARGO | | | | |
|---|--|--|---|--|
| 23. TYPE LOAD AND WEIGHT TRAINING LOAD 3700 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS One | NO. CONTAINERS N/A | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER 8 FT TYPE V | 27. TYPE PARACHUTE AND NUMBER TWO G-12Es | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15 FOOT | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT 1 of 1 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Extraction parachute deployed normally and extracted the load from the aircraft. After leaving the aircraft, the cargo parachutes never deployed and the load fell, suspended only by the extraction parachute. Impact resulted in the loss of platform and wood, some air items were reusable. Losses totaled \$3,565.00.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Examination of the load and extraction system revealed that the coupling link never released from the EFTC latch, so the extraction force was never transferred to the deployment phase. Further inspection revealed that the EFTC actuator and release cable worked properly. The problem was found to be in the latch assembly. One of the bolts inside the assembly had loosened and extended down far enough to snag on the bottom plate. The latch linkage and pawl never rotated enough to release the coupling link cam. Out of 39 other loads inspected, we found five with the same problem of loose bolts in the latch assemblies.

CONTINUED ON NEXT PAGE

ANALYSIS: 22

WHAT WAS THE MALFUNCTION?

Parachutes failed to get the recovery phase.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Latch not releasing.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Inspection of latch assembly.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------|--------------------------------|------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 650 AGL | 10. ACFT SPEED (Knots) 140 | 11. DZ ELEVATION (Feet) 240 | 12. SURFACE WINDS (Knots) 360/8 | 13. VISIBILITY (Feet/Miles) 7 MILES |

| III. CARGO | | | | |
|--|--|--|---|----------------------------------|
| 23. TYPE LOAD AND WEIGHT HEAVY EQUIPMENT | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | NO. CONTAINERS | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER 8' TYPE II | 27. TYPE PARACHUTE AND NUMBER G-12D(2) | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15' | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Extraction phase was normal. Deployment phase never occurred. The load was completely destroyed. PEFTC actuators had released the 36-foot bridle which never exited the guidance tubes. The after drop inspection revealed the extraction system components were in good working order.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

DZ personnel, including on-site JAI, noted no obvious rigging errors during the follow-up inspection of the extraction parachute, PEFTC and all components of the heavy. A review panel has met. With inconclusive evidence, one suspected cause is air stravation in the extraction parachute, causing failure between the extraction phase and the deployment phase.

CONTINUED ON NEXT PAGE

ANALYSIS: 23

WHAT WAS THE MALFUNCTION?

Bridle incorrect release from tubes.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Tube backwards. Buffer caught in tubes. Use of PEFTC. Type II platform.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Update equipment and use the Type V platform.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------|--------------------------------|--------------------------------|-----------------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-141B | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 971 AGL | 10. ACFT SPEED (Knots) 145 | 11. DZ ELEVATION (Feet) 274 | 12. SURFACE WINDS (Knots) 3 | 13. VISIBILITY (Feet/Miles) +7 |

| III. CARGO | | | | |
|---|--|--|--|---|
| 23. TYPE LOAD AND WEIGHT M-998, 16-FOOT HMMWV, 9960 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-517/ TO 13C7-1-111 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 3 | NO. CONTAINERS | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V | 27. TYPE PARACHUTE AND NUMBER G-11B (2) | 28. SIZE EXTRACTION/RELEASE PARACHUTE 22-FOOT | 29. LENGTH OF REEFING LINE UNREEFED | 30. POSITION OF LOAD IN AIRCRAFT 3 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The EFTC actuator arm was found on ramp during the post drop checklist. The arm had an estimated 10 degree or less bend towards the outboard side of the rail. It was broken where the arm attaches into the system. Further investigation found left locks 22, 23, and 26 bent aft with a groove in the lock pivot point on the outboard edge. Also, a 6- by 3-inch gash was discovered in the aft enclosed area 20-feet behind the parachute extraction holder.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

It is suspected that the malfunction was on the third platform. While talking to a 3 APS JAI, we learned that some EFTC arms have a little lateral play. This could have contributed to the malfunction. One possibility is that this arm had some movement and combined with the slight bend, let the arm fall off the rail. Another possibility is that the arm was partially broken and the subsequent violence of the extraction pushed the arm out into the rail locks. The investigation revealed that the arm moved outboard off the rail just prior to lock 22, bent 22 and 23 skipped 24 and 25, contacted 26 and broke off. The deployment phase started at approximately the ramp hinge, but the platform extracted successfully. We suspect the link assembly contacted the aircraft after it was released from the latch assembly.

CONTINUED ON NEXT PAGE

ANALYSIS: 24

WHAT WAS THE MALFUNCTION?

Actuator arm bent and caused load to go to deployment phase inside aircraft.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Actuator arm bent.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Inspect actuator arms, recommended tolerance for maximum play on rail system.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------|-------------------------------------|-----------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1105 MSL | 10. ACFT SPEED (Knots) 140 | 11. DZ ELEVATION (Feet) 508 FEET | 12. SURFACE WINDS (Knots) CALM | 13. VISIBILITY (Feet/Miles) 10 MILES |

| III. CARGO | | | | |
|---|--|--|---|--|
| 23. TYPE LOAD AND WEIGHT Heavy Equipment 3400 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 57-512/ TM 13C7-1-8 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) N/A |
| | | NO. PLATFORMS 1 | NO. CONTAINERS N/A | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V | 27. TYPE PARACHUTE AND NUMBER G-12E X 2 | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15 FOOT | 29. LENGTH OF REEFING LINE 60-FOOT | 30. POSITION OF LOAD IN AIRCRAFT FS 617 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light (release point), extraction parachute exited aircraft, but load did not extract. Condition of parachute unknown due to darkness. Right rail control handle pulled to emergency position. Load extracted slower than usual.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

At 0505 -21 shop informed me that the pull test on #9 dual rail lock, right hand, was GOOD. Third APS suspects extraction parachute malfunction.

CONTINUED ON NEXT PAGE

ANALYSIS: 25

WHAT WAS THE MALFUNCTION?

1. Slowed extraction.
2. Extraction parachute did not open.
3. Type IV link separated prior to deployment phase.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Loadmaster releasing load before confirming a good extraction parachute.
2. Type IV link separation.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Aircrew should follow checklist procedures to ensure full extraction parachute.
2. Ensure the Type IV link plate is seated and locked.
3. Have loadmaster perform closer inspection.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|---------------------------------|-------------------------------|--------------------------------|--|-----------------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-141 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 830' | 10. ACFT SPEED (Knots) 150 | 11. DZ ELEVATION (Feet) 52' | 12. SURFACE WINDS (Knots) 230 degrees/7 knots | 13. VISIBILITY (Feet/Miles) 7+ |

| III. CARGO | | | | |
|---|---|--|---|--|
| 23. TYPE LOAD AND WEIGHT Howitzer/10340 HMMWV/10340 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-519/TO 13C7-10-31 FM 10-517/TO 13C7-1-111 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) CDS (CRRC) |
| | | NO. PLATFORMS 2 | NO. CONTAINERS | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER 20-foot Platforms | 27. TYPE PARACHUTE AND NUMBER G-11B/2 Each | 28. SIZE EXTRACTION/RELEASE PARACHUTE 22 FOOT | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT CBs: 815 1083 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The loadmasters discovered in their post drop inspection that the aft most roller on butt line 51 left was ripped in half exposing the roller bearings. No other damage was discovered on the aircraft.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

A thorough inspection of the rollers found it to be old and worn. Army did not report any problem with the equipment that was dropped.

CONTINUED ON NEXT PAGE

ANALYSIS: 26

WHAT WAS THE MALFUNCTION?

No malfunction.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

No malfunction.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Aircraft equipment problem.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1105 MSL | 10. ACFT SPEED (Knots) 140 KNOTS | 11. DZ ELEVATION (Feet) 508 FEET | 12. SURFACE WINDS (Knots) CALM | 13. VISIBILITY (Feet/Miles) 10 MILES |

| III. CARGO | | | | |
|---|--|--|---|---|
| 23. TYPE LOAD AND WEIGHT HEAVY EQUIPMENT 3400 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | NO. CONTAINERS N/A | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V | 27. TYPE PARACHUTE AND NUMBER G-12E X 2 | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15-FOOT | 29. LENGTH OF REEFING LINE 60-FOOT | 30. POSITION OF LOAD IN AIRCRAFT 617 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

At release point, platform did not extract normally from aircraft. After loadmasters visually observed taut extraction line and no platform movement, the right hand release handle was pulled. Platform appeared to gravity extract from the aircraft. At this point, the extraction line seemed to be occilating side-to-side upon platform exit.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

It was determined that the Type V connector link was not properly rigged. The connector side plate was not correctly locked into place. Both the main body and side locking plate were recovered on the drop zone undamaged but separated at an approximate distance of 150 feet. The cause of this malfunction was aircrew error due to improper rigging procedures IAW TO 1C-130A-9, section 7B-13a.

CONTINUED ON NEXT PAGE

ANALYSIS: 27

WHAT WAS THE MALFUNCTION?

1. Slowed extraction.
2. Extraction parachute did not open.
3. Type IV link separated prior to deployment phase.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Loadmaster releasing load before confirming a good extraction parachute.
2. Type IV link separation.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Aircrew should follow checklist procedures to ensure full extraction parachute.
2. Ensure the Type IV link plate is seated and locked.
3. Have loadmaster perform closer inspection.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------|---------------------------------|-----------------------------------|---|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 750 AGL | 10. ACFT SPEED (Knots) 130 | 11. DZ ELEVATION (Feet) 1430 | 12. SURFACE WINDS (Knots) CALM | 13. VISIBILITY (Feet/Miles) 10 MILES |

| III. CARGO | | | | |
|--|--|---|---|---|
| 23. TYPE LOAD AND WEIGHT 8 FOOT TYPE V MASS SUPPLY | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 CHAPTER 11 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | NO. CONTAINERS | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE X | 27. TYPE PARACHUTE AND NUMBER 2 (G-12E) | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15-FOOT NUMBER 56 | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT 630 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

During the Airlift Rodeo Competition, the Singapore Team had a malfunction on their heavy equipment airdrop. At green light, the 15-foot extraction parachute deployed. Immediately after the extraction parachute opened, several of the parachute's panels blew out causing the extraction parachute to completely collapse. The heavy equipment load overrode the right hand lock #9 set at 2.50 but did not break the 1/2-inch tubular nylon breakcord tie. Aircraft loadmasters cut the extraction line, freeing the collapsed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The cause of the malfunction was failure of the 15-foot extraction parachute panels. This was the sixteenth time this parachute had been used.

CONTINUED ON NEXT PAGE

ANALYSIS: 28

WHAT WAS THE MALFUNCTION?

Extraction parachute separated, blown.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Material failure. Possible dry rot of 15-foot extraction parachute.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Quality control of parachutes and better storage of parachutes.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|---------------------------------|-------------------------------|--------------------------------|---------------------------|-----------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1100 | 10. ACFT SPEED (Knots) 125 | 11. DZ ELEVATION (Feet) 250 | 12. SURFACE WINDS (Knots) | 13. VISIBILITY (Feet/Miles) |

| III. CARGO | | | | |
|--|--|--|---|---|
| 23. TYPE LOAD AND WEIGHT M925A1 19,400 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-526/ TO 13C7-2-481 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V | 27. TYPE PARACHUTE AND NUMBER 6 G-11B | 28. SIZE EXTRACTION/RELEASE PARACHUTE (2) 28-FOOT | 29. LENGTH OF REEFING LINE | 30. POSITION OF LOAD IN AIRCRAFT 1 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The link assembly failed to release from the latch assembly preventing the six G-11B parachutes from deploying. Burn marks and scarring were found on both the latch and link assemblies. A total malfunction. The EFTC system will be sent to Natick Labs for full evaluation.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Not Given.

CONTINUED ON NEXT PAGE

ANALYSIS: 29

WHAT WAS THE MALFUNCTION?

Cam could not rotate, releasing the line from EFTC and not allowing parachutes to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper rigging and JAI.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Proper rigging and JAI procedures.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|---------------------------------------|-----------------------------------|---------------------------------------|--------------------------------|--------------------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-141B | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1,900 FEET | 10. ACFT SPEED (Knots) UNKNOWN | 11. DZ ELEVATION (Feet) 1,870 FEET | 12. SURFACE WINDS (Knots) 0 | 13. VISIBILITY (Feet/Miles) CLEAR |

| III. CARGO | | | | |
|---|---|---|---|--|
| 23. TYPE LOAD AND WEIGHT 950B/36,000 LBS 929A2/30,720 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-574/TO 13C7-31-31 FM 10-526/TO 13C7-2-481 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) N/A |
| | | NO. PLATFORMS 2 | NO. CONTAINERS 0 | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V (2) | 27. TYPE PARACHUTE AND NUMBER G-11C (14) | 28. SIZE EXTRACTION/RE-LEASE PARACHUTE 28-FOOT (4) | 29. LENGTH OF REEFING LINE 10 FOOT | 30. POSITION OF LOAD IN AIRCRAFT 1 EACH |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

This malfunction is a result of a two load entanglement. The airdrop was accomplished with three C-141 aircraft which flew an echelon left formation. Extraction of all loads was normal; however, the 950B scoop loader of the lead aircraft and the M929 dump truck of the second aircraft became entangled during the deployment phase. The incidental damage to the G-11C cargo parachutes of both loads caused them to impact much harder than normal rendering the 950B nonmission capable, but repairable. The extent of the damages are as follows:

- a. 950B: All four tires blown out and multiple hydraulic leaks at different locations on the vehicle.
- b. Cargo Parachutes: All the G-11s had some damage. Four are over 75 percent damaged and Beyond Economical Repair. The remaining ten parachutes have repairable damages such as broken suspension lines, burn holes in the canopies, blown sections and blown gores. The extent of the repair hours on each will range between 20 and 70 hours.
- c. Riser Extensions: Only seven riser extensions were damaged. The visible damages were cuts, burns and multiple abrasions on different plies. The damages are radical indicating a violent interaction.
- d. Platforms: Only the 950B platform was damaged. One side rail and three panels were replaced.

CONTINUED ON NEXT PAGE

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

As observed from the ground, the three aircraft appeared closer than normal; moreover, the lead and second aircraft released their loads simultaneously. Because of the close proximity drop, the loads began to interact immediately. The 950B was higher during the inflation of the canopies and three of its parachutes collapsed because of air starvation. The 950B then fell lower than the dump truck causing severe damage to the canopies and riser extensions through contact. From this point on, the parachutes became entangled, ripping and tearing as they tried to separate. Two of the 950B parachutes separated from the M-2 at the riser extension because of the interaction further increasing the rate of descent. The parachutes of the 950B did suffer the brunt of the damages; obviously causing it to fall faster than normal, rendering the equipment nonmission capable upon impact. The proximate cause of this incident can be attributed to the aircraft flying close and the simultaneous release.

ANALYSIS: 30

WHAT WAS THE MALFUNCTION?

Loads contacting each other, increasing rate of descent.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Loads contacting each other causing damage to parachutes and risers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Proper aircraft separation.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 800 AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 328' MSL | 12. SURFACE WINDS (Knots) 2 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED |

| III. CARGO | | | | |
|---|---|--|---|--|
| 23. TYPE LOAD AND WEIGHT M998 10,420 | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-517 TO 13C7-1-111 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) N/A |
| | | NO. PLATFORMS 2 | NO. CONTAINERS N/A | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER 16-FOOT TYPE V | 27. TYPE PARACHUTE AND NUMBER 2 x G-11B | 28. SIZE EXTRACTION/RELEASE PARACHUTE 22-FOOT | 29. LENGTH OF REEFING LINE N/A | 30. POSITION OF LOAD IN AIRCRAFT 1 of 2 |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Load exited the aircraft and transferred to deployment phase. One G-11B elongated but did not inflate. The other G-11B inflated properly but several gores ripped from lower to upper lateral band. The load landed hard without damage.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Due to improper arming and safety ties, cutters could not fire. Cutters 1 and 61 were not armed or safety tied. Bracket and cutter 91 ripped off the canopy. Cutter 31 had the arming tie routed through the cable loop and bracket. This tie ripped the grommets off the D-bag. The D-bag had damage where the cutters ripped out.

CONTINUED ON NEXT PAGE

ANALYSIS: 31

WHAT WAS THE MALFUNCTION?

Parachute failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Cutters improperly tied and incorrectly armed.
2. Improper packing procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Better inspection procedures.
2. Ensure riggers pack parachutes correctly and arming of cutters are accomplished.

TAR&M/SA VOL II

| I. GENERAL | | | | |
|------------------------------------|-------------------------------------|------------------------------------|-----------------------------------|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130E | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 650 AGL | 10. ACFT SPEED (Knots) 140 KNOTS | 11. DZ ELEVATION (Feet) 390 MSL | 12. SURFACE WINDS (Knots) CALM | 13. VISIBILITY (Feet/Miles) 7 MILES |

| III. CARGO | | | | |
|---|--|--|---|---|
| 23. TYPE LOAD AND WEIGHT HEAVY EQUIPMENT 3390 LBS | 24. RIGGED IAW (TM/TO/NAVAIR No.) FM 10-512/ TO 13C7-1-8 | 25. AERIAL DELIVERY SYSTEM USED | | |
| | | <input checked="" type="checkbox"/> DUAL RAIL | <input type="checkbox"/> CDS RELEASE GATE | OTHER (Explain) |
| | | NO. PLATFORMS 1 | NO. CONTAINERS N/A | |
| 26. TYPE PLATFORM/AIR-DROP CONTAINER TYPE V | 27. TYPE PARACHUTE AND NUMBER 2 X G-12E | 28. SIZE EXTRACTION/RELEASE PARACHUTE 15-FOOT | 29. LENGTH OF REEFING LINE | 30. POSITION OF LOAD IN AIRCRAFT FS 530 (Approx) |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

When the load exited the aircraft, it tilted forward. Parachutes released normally but the load remained in the forward-tilted position and landed in that manner.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Upon further investigation (after returning the platform to the rigging hangar), it was determined that the right-aft suspension sling got tangled with the top aft-right lashing binder. This is suspected because of the chafed mark left on the suspension sling at the precise intersect location of the binder. The deadman tie was in place and had the proper amount of tension. The platform was rigged in accordance with the appropriate rigging T.O.

FINDINGS: There was proper adherence to procedure on behalf of all members associated with the airdrop. No individual or act can be cited in this instance to have contributed to this malfunction.

RECOMMENDED SOLUTION: Even on a properly rigged load, take into account the position of the lashings and the binders, and consider the probability of an entanglement with suspension slings throughout their travel to the deployment phase.

CONTINUED ON NEXT PAGE

ANALYSIS: 32

WHAT WAS THE MALFUNCTION?

Suspension slings entangled with load.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Deadman improperly routed.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure deadman is routed properly and position load binders in center of load if possible.
2. Ensure load binders are closed in upward position.
3. Possibly use shorter suspension slings on low profile load.

PERSONNEL MALFUNCTION REPORTS AND ANALYSIS

| I. GENERAL | | | | |
|--|---|--|---|--|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1250' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 274' | 12. SURFACE WINDS (Knots) 6-10 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED |
| II. PERSONNEL | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER ALICE PACK, M1950 WEAPONS CASE, KEVLAR BALLISTIC HELMET | | 16. JUMPER'S POSITION IN ACFT 3d JUMPER LEFT DOOR/5th LEFT DOOR 2d AIRCRAFT 2d PASS |
| 17. TYPE PARACHUTE (Specify) MC1-1C | 18. TYPE MALFUNCTION | | | 19. NO. JUMPS 7th JUMP/ 11th |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | MID-AIR ENTANGLEMENT |
| 20. TYPE OF RESERVE T-10 | 21. RESERVE FUNCTIONED PROPERLY (if "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | |
| 31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.) At approximately 800' AGL, the higher jumper noticed that he was heading towards the second jumper for a possible collision. The second jumper simultaneously noticed the same. Both jumpers spread eagled and attempted to bounce off canopy and suspension lines. This effort was hopeless and they became entangled. After entanglement, both jumpers activated their reserve parachutes using the down and away method. The higher jumper's reserve activated and was fine. The second jumper's reserve activated and deployed into his main canopy because he did not throw it down and away vigorously. The higher jumper went through the second jumper's canopy at line #19 and exited through line #24. The jumpers remained entangled until they both hit the ground without serious injury. The higher jumper complained of back pain and was taken to the hospital for further evaluation. | | | | |
| 32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.) NOT GIVEN | | | | |

CONTINUED ON NEXT PAGE

ANALYSIS: 33

WHAT WAS THE MALFUNCTION?

None. It was an entanglement.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Improper third point of performance.
2. Failure to turn right to avoid collision.
3. Improper separation.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Place greater emphasis on the pre-jump.

| I. GENERAL | | | | | |
|---|--|--------------------------------------|--------------------------------------|--|--------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1500 AGL | 10. ACFT SPEED (Knots) 125 | 11. DZ ELEVATION (Feet) 3097 | 12. SURFACE WINDS (Knots) 5 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER NONE | | 16. JUMPER'S POSITION IN ACFT 2 OF 2/RAMP | |
| 17. TYPE PARACHUTE (Specify) MC-1C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 130 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | BROKEN CONTROL LINE | |
| 20. TYPE OF RESERVE T-10 CHEST | 21. RESERVE FUNCTIONED PROPERLY (if "No" explain in item 31) <input type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper had a normal exit. During the second point of performance, he felt uneven opening shock and noticed his right control line had broken. Jumper was able to maneuver the canopy and landed safely on the drop zone.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Initial investigation revealed the control line separated from the canopy at the attachment points. Further investigation revealed the control lines were under considerably more tension than the suspension lines. The control lines were not properly measured when the parachute was placed in service.

CONTINUED ON NEXT PAGE

ANALYSIS: 34

WHAT WAS THE MALFUNCTION?

Control line separated during deployment.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Control line too tight.
2. Improper in-service.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure all TMs, message traffic referencing in-service procedures are adhered to.

TAR&M/SA VOL II

| I. GENERAL | | | | | | | | | |
|--|--|--|--------------------|---|----------------------------------|--------------------------------------|---|--------------------------------------|--|
| 1. UNIT BEING AIRLIFTED | | 2. DEPARTURE AIRFIELD | | 3. DATE | | 4. TYPE ACFT C-130 | | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | | 7. DZ AND LOCATION | | | 8. DATE AND TIME | | | |
| 9. ACFT ALTITUDE (Feet) 1500 AGL | | 10. ACFT SPEED (Knots) 125 | | 11. DZ ELEVATION (Feet) 5198 | | 12. SURFACE WINDS (Knots) 3 KNOTS | | 13. VISIBILITY (Feet/Miles) NIGHT | |
| II. PERSONNEL | | | | | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | | | 15. EQUIPMENT WORN BY JUMPER ALICE, WEAPON | | | 16. JUMPER'S POSITION IN ACFT 2 OF 2/LEFT DOOR | | |
| 17. TYPE PARACHUTE (Specify) MC-1C | | 18. TYPE MALFUNCTION | | | | | | 19. NO. JUMPS 16 | |
| | | SEMI-INVERSION | | INVERSION | | CIGARETTE ROLL | | | |
| | | PILOT CHUTE | | BLOWN SECTION | | BROKEN SUSPENSION LINE | | BROKEN CONTROL LINE | |
| 20. TYPE OF RESERVE T-10 CHEST | | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input type="checkbox"/> YES <input type="checkbox"/> NO | | | 22. RESULTING INJURY NONE | | | | |
| 31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.) Jumper exited the aircraft in a normal body position. During the second point of reference, the jumper experienced an aggressive opening with several twists. He noticed his right control line and a small portion of canopy wrapped around his right riser. The jumper was able to land the parachute on the drop zone safely. | | | | | | | | | |
| 32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.) Initial investigation revealed the control line separated from the canopy at the attachment points. Further investigation revealed control lines were under considerably more tension than the suspension lines. This indicates the control lines were not properly measured when the parachute was placed in service. | | | | | | | | | |

CONTINUED ON NEXT PAGE

ANALYSIS: 35

WHAT WAS THE MALFUNCTION?

Control line separated during deployment.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Control line too tight.
2. Improper in-service.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure all TMs, message traffic referencing in-service procedures are adhered to.

| I. GENERAL | | | | | |
|---|--|--|--------------------------------------|--|-------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1500 AGL | 10. ACFT SPEED (Knots) 125 | 11. DZ ELEVATION (Feet) SEA LEVEL | 12. SURFACE WINDS (Knots) 6 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER WET GEAR, SPUDS, ALICE | | 16. JUMPER'S POSITION IN ACFT 2 OF 2/DOOR | |
| 17. TYPE PARACHUTE (Specify) MC-1C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 12 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | REVERSED CANOPY | |
| 20. TYPE OF RESERVE T-10 CHEST | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |
| 31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.) Jumper had a normal exit. During the second point of performance, he had line twists. After clearing twists, the jumper noticed his T.U. modification was in the front of his canopy. The jumper was able to release his equipment and maneuver the canopy to land safely on the drop zone. | | | | | |
| 32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.) The canopy was packed into the deployment bag and lines were stowed without being attached to the harness. After the canopy had been packed, the risers were attached to the canopy release assemblies. The risers had been crossed causing the canopy to deploy with the orifice to the front of the jumper. | | | | | |

CONTINUED ON NEXT PAGE

ANALYSIS: 36

WHAT WAS THE MALFUNCTION?

Reversed maneuverable canopy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Improper pack procedures.
2. Quality control failure.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Follow procedures in TMs.

| I. GENERAL | | | | | |
|---|---|---|---------------------------------------|--|------------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT TWIN OTTER | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | 8. DATE AND TIME | | |
| 9. ACFT ALTITUDE (Feet) 12,500' AGL | 10. ACFT SPEED (Knots) 100 KNOTS | 11. DZ ELEVATION (Feet) 250' AGL | 12. SURFACE WINDS (Knots) 15 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER DC7 FREEFALL PARACHUTE, MAIN MC4 RESERVE | | 16. JUMPER'S POSITION IN ACFT #2 OF 3 | |
| 17. TYPE PARACHUTE (Specify) DC7 | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 500 (+) |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | TENSION KNOT | |
| 20. TYPE OF RESERVE MC4 | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Military freefall jumper exited the Twin Otter at 12,500 feet AGL with two other jumpers. Formation broke off at 5,000 feet AGL. Jumper executed pull sequence at 4,000 feet AGL. Jumper was flat and stable, observed by other jumpers in the air. Jumper checked canopy and noticed his slider was hung up due to a right control line tension knot 12 inches below stabilizers. Jumper executed procedures for a hung slider and also tried unsuccessfully to work out the tension knot in the right control line. At approximately 3,000 feet AGL, the jumper's canopy started a violent right hand spin. The jumper executed "Cut-Away" procedures according to FM 31-19, Chapter 10-5. Jumper executed proper partial malfunction for post opening and canopy controllability check, FM 31-19, Chapter 10. The DC7 canopy was jumper packed. The jumper is part of the USASOC Modular Demonstration team. Approving authority for jumper repack is USASOC Reg. 350-2, 16-2 (E), also USASOC Reg. 350-2, 27-2 (3), message number 0415002, March 96. Parachute packing inspection and final inspection of the parachute was in accordance with USASOC Reg. 350-2, 27-2 and TM 1670-287-23&P. An FF-2 was worn by the jumper. All required reports were filed. There was no injury to the jumper or property damages. Parachute was recovered and inspected.

CONTINUED ON NEXT PAGE

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Possible cause of malfunction could have been too much slack in the first two locking stows causing the right cascade line of the control line to loop around the control line causing a tension knot. Another possible cause could have been the risers were not even during packing, causing the lines to be longer on the right side than on the left side. During opening, the left side of the canopy had more line tension than the right side causing a cascade line from the right control line to loop around and cause a tension knot. There is no clear cause of the malfunction. The parachute was inspected, no tension knot was found and the slider was located just above the risers when the DC7 main parachute was found. A 100 percent technical rigger inspection was conducted according to TM 1670-287-23&P.

RECOMMENDATION: A greater increase in safety has to occur when non-qualified riggers are packing. Ensure all rigger checks are called and physically checked, not just observed. Ensure that all non-qualified parachute riggers jumping military freefall equipment are certified on proper parachute repack. Reference USASOC Reg. 350-2, Chapter 27-1 (C).

ANALYSIS: 37

WHAT WAS THE MALFUNCTION?

Tension knot right control line.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Possible slack in the lines.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure quality control measures are adhered to.
2. Perform rigger checks.

| I. GENERAL | | | | | |
|---|---|--|---|---|------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1250' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 228' | 12. SURFACE WINDS (Knots) 5-7 | 13. VISIBILITY (Feet/Miles) Cloudy, over-cast, 2 miles | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER RUCKSACK, LBE, M-A50 WEAPON SET | | 16. JUMPER'S POSITION IN ACFT Last Jumper, First Pass 10th, Left Door | |
| 17. TYPE PARACHUTE (Specify) MC1-1C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 8 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | Static Line Injury | |
| 20. TYPE OF RESERVE T-10 | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY BROKEN LEFT HUMERUS | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

The jumper was jumper 10 of 10, left door, first pass. Inboard seats were in place to the forward edge of the wheel wells. Lack of space forced the #1 jumper left door to sit on the right side for the flight. After the command "Stand Up" was given, the #1 jumper moved back to the left side of the aircraft. The jumper stated that he did not have enough room because of jumpers seated behind him and was forced to step inboard away from the skin of the aircraft. At that point, there was not enough slack for a bight so the safety unstowed one static line stow. The jumper had no slack between the anchor line cable and his hand, or between his hand and the pack tray. As the stick exited, the jumper moved back toward the skin of the aircraft creating a large amount of slack between his hand and the anchor line cable. No attempt was made to correct the problem by anyone. As the jumper exited, the static line routed around his arm causing a spiral fracture of the left humerus.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Not having enough seats installed caused an overcrowding problem forcing the jumper away from the anchor line cable. An excess amount of static line was required for the jumper to get a bight. After moving back toward the anchor line prior to exit created slack between his hand and the anchor line allowing his arm to pass through it on exit.

CONTINUED ON NEXT PAGE

ANALYSIS: 38

WHAT WAS THE MALFUNCTION?

Incident - static line injuries.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Slack in static line.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Observe proper procedures in the aircraft.

| I. GENERAL | | | | | |
|---|---|--|--|--|------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1000 AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) | 12. SURFACE WINDS (Knots) 0-3 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER COMBAT EQUIPMENT | | 16. JUMPER'S POSITION IN ACFT #6 LEFT DOOR 2ND CHALK | |
| 17. TYPE PARACHUTE (Specify) T-10C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 7 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | TOWED | |
| 20. TYPE OF RESERVE 24' RES | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited the aircraft and his weapons case became lodged in the jump door at the floor of the aircraft. Jumper was towed until weapons case broke free from the jumper's harness, weapons case remained in the aircraft, main parachute functioned normally and jumper received no injuries.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Review of supporting statement reflects the fact that the jumper has a history of bad door exits during sustained airborne training. It is believed the cause of being a towed jumper was the result of weapon case ties being undone along with a bad body position, resulting in the weapons case length being greater than the aircraft door width, i.e., hung jumper.

CONTINUED ON NEXT PAGE

ANALYSIS: 39

WHAT WAS THE MALFUNCTION?

Towed parachutist.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper attachment/wear of equipment, M-1950 weapons container.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Follow proper procedures for wearing of equipment.

| I. GENERAL | | | | | |
|---|---|--------------------------------------|---|---|--------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-141 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 7500' | 10. ACFT SPEED (Knots) 135 | 11. DZ ELEVATION (Feet) 323' | 12. SURFACE WINDS (Knots) 14 KNOTS | 13. VISIBILITY (Feet/Miles) 7+ | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER NONE | | 16. JUMPER'S POSITION IN ACFT #3 OF 11 | |
| 17. TYPE PARACHUTE (Specify) T-1X | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 850 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | BAG LOCK | |
| 20. TYPE OF RESERVE T-1S | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NO INJURIES TO JUMPER | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper made good exit, experienced no difficulty in freefall. Flat and stable during parachute deployment sequence. Jumper stated he had line stretch, but the canopy did not clear the bag. It appeared that the lines prevented the canopy from clearing the bag. He stated that he tried to clear the malfunction three times, and then performed cut away procedures at 4000 feet. ALL OKAY!

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

Cause of malfunction could not be determined, since the parachute was recovered by the Rodeo Team, and they took the parachute out of the bag and took pictures of it.

CONTINUED ON NEXT PAGE

ANALYSIS: 40

WHAT WAS THE MALFUNCTION?

Bag locked.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Length of locking stows.
2. Not enough information because existing evidence was altered/destroyed.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Not enough information available.

| I. GENERAL | | | | | |
|---|---|---|--------------------------------------|---|-------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 800' AGL | 10. ACFT SPEED (Knots) 130 KNOTS | 11. DZ ELEVATION (Feet) 328' MSL | 12. SURFACE WINDS (Knots) 8 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER COMBAT LIGHT, M16 WITH 203 ATTACHMENT | | 16. JUMPER'S POSITION IN ACFT CHALK 4, LEFT 17 | |
| 17. TYPE PARACHUTE (Specify) T10C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 26 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | STREAMER | |
| 20. TYPE OF RESERVE 24 FOOT | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper stated that he thought he had a good exit, but went out with an exaggerated forward bend at the waist. He felt a small opening shock as he reached a five thousand count. He looked up and saw only a small portion of his canopy inflated. He immediately went back into a tight body position and activated his reserve for a full malfunction. The reserve canopy rose up into his face and he pushed it out, causing it to fully inflate at about 250-300 feet AGL. The jumper landed safely with no injuries. Interviews with the jumpmaster, safety, and jumper revealed the following additional information: the lower leg tie-down strap was not fastened; the aircraft was experiencing an elevated level of turbulence as the stick exited; there were several seconds of green light left after the last jumper exited the aircraft. A video of the incident showed the jumper spinning even after his reserve deployed.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

It is believed that the jumper had a weak, head first exit. The lower tie-down strap was not secured on the M1950 weapons case, causing it to catch air, resulting in the jumper spinning in a face down position. This position could have caused the suspension lines to entangle with the M1950 and distorting the normal parabolic shape of the canopy.

CONTINUED ON NEXT PAGE

ANALYSIS: 41

WHAT WAS THE MALFUNCTION?

1. Parachute failed to fully inflate.
2. Suspension lines entangled with M1950.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Improper wearing of equipment.
2. Improper body position of jumper.
3. Lower tie-down not fastened.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure safeties work in the aircraft.
2. Place more emphasis on procedures and wearing of equipment.
3. Additional equipment must receive same emphasis as the parachute.

| I. GENERAL | | | | | |
|---|---|--------------------------------------|---|--|-------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT UH-1 (HUEY) | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 9,000 FT AGL | 10. ACFT SPEED (Knots) 40 KNOTS | 11. DZ ELEVATION (Feet) 115 | 12. SURFACE WINDS (Knots) 8-10 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER NONE | | 16. JUMPER'S POSITION IN ACFT #1 OF 3 | |
| 17. TYPE PARACHUTE (Specify) MC-4 | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 50 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | PREMATURE ACTIVATION | |
| 20. TYPE OF RESERVE MC-4 | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NECK INJURY | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

At the 1 minute warning, the jumper set up and rotated his body preparing to attain a good exit posture. During his rotation, the jumper's lower portion of his parachute container, which houses the knurled nut and withdrawal hook, rubbed against the corner of the transmission housing causing the deployment of the main pilot parachute inside the aircraft. The jumper was approximately 1 foot from the door and the jumper was unable to contain his pilot parachute. His pilot parachute exited the aircraft, extracting the jumper. During the extraction, the jumper was forced to turn in a 180 degree position. The jumper's left side was forced into the rear portion of the door resulting in his reserve static line being torn away from his parachute container.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The jumper was unaware of his main pilot parachute deployment. Therefore he was unable to contain his main pilot parachute. A 100 percent technical rigger inspection (TRI) was conducted on the parachute system (with the exception of the main canopy which was not recovered) and no deficiencies were found. After evaluation of all available evidence, the probable cause of the incident was failure of the jumper to be aware of possible hazards inside aircraft.

CONTINUED ON NEXT PAGE

ANALYSIS: 42

WHAT WAS THE MALFUNCTION?

Pilot parachute prematurely activated.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Possible closing loop length.
2. Possible pin flap unsnapped.
3. Protuding objects in aircraft.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Perform proper procedures according to TMs.
2. Better jumper awareness.
3. Jumpmaster should have caught any or all of the aforementioned possible causes.

| I. GENERAL | | | | | |
|---|---|---|---|---|-------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT SH-3 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 2000 FEET | 10. ACFT SPEED (Knots) 90 KNOTS | 11. DZ ELEVATION (Feet) 0 | 12. SURFACE WINDS (Knots) 0-5 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER HELMET, GOGGLES, GLOVES | | 16. JUMPER'S POSITION IN ACFT JUMPER 3 RIGHT DOOR | |
| 17. TYPE PARACHUTE (Specify) C-9 | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 96 |
| | <input checked="" type="checkbox"/> SEMI-INVERSION | <input type="checkbox"/> INVERSION | <input type="checkbox"/> CIGARETTE ROLL | <input type="checkbox"/> OTHER (SPECIFY) | |
| | <input type="checkbox"/> PILOT CHUTE | <input type="checkbox"/> BLOWN SECTION | <input type="checkbox"/> BROKEN SUSPENSION LINE | Partial Inversion | |
| 20. TYPE OF RESERVE T-10 24-FOOT | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

After exiting the aircraft, the jumper noticed a slow opening of the parachute. Upon checking the canopy, he saw that he had a partial inversion, so he corrected it IAW TO procedures. Once corrected, the parachute was completely inverted from front to back. The four line modification was not performed due to the fully inversion. Line burns on gores 19-26, 2-4. Reserve was not used and landing was uneventful.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The exact cause could not be determined. A complete inspection revealed no conclusive evidence. There were no indications of procedural or packing errors. This parachute has no anti-inversion net.

CONTINUED ON NEXT PAGE

ANALYSIS: 43

WHAT WAS THE MALFUNCTION?

Inversion.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

No anti-inversion net.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Without an anti-inversion net, this will continue to be an inherent problem.

TAR&M/SA VOL II

| I. GENERAL | | | | | |
|---|---|--|--|---|--------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 9500 AGL | 10. ACFT SPEED (Knots) 130 | 11. DZ ELEVATION (Feet) 700 | 12. SURFACE WINDS (Knots) 1 FROM EAST | 13. VISIBILITY (Feet/Miles) 5-7 MILES | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER HOLLYWOOD JUMP | | 16. JUMPER'S POSITION IN ACFT JM, LAST TO EXIT | |
| 17. TYPE PARACHUTE (Specify) MC-4 | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 120 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | CUT AWAY | |
| 20. TYPE OF RESERVE MC-4 | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper (jumpmaster) exited a C-130 last in the stick from 9500 feet AGL during night operation. Jumper was stable and went into pull sequence at 4500 feet AGL. Jumper pulled and cleared over his right shoulder. Jumper felt no lift and was unable to observe any canopy. Jumper performed cut-away procedures for a total malfunction and was under the reserve canopy by 2500 feet AGL and landed at turn-in point without injury.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

The main canopy was recovered on the drop zone three days after the drop. The canopy was completely out of the deployment bag. Upon inspection, no defects were noted in the main canopy and the slider was more than half way down the suspension lines. It appears the canopy was in the process of deploying when the jumper cut it away. If the jumper would have cleared over his right shoulder a second time this would have probably given the main canopy enough time to deploy.

CONTINUED ON NEXT PAGE

ANALYSIS: 44

WHAT WAS THE MALFUNCTION?

No lift from main canopy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Possible improper clearing/burble.
2. Did not clear twice.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Follow procedures and clear twice.

| I. GENERAL | | | | | |
|---|---|--------------------------------------|--------------------------------------|---|-------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1000 AGL | 10. ACFT SPEED (Knots) 125 KNOTS | 11. DZ ELEVATION (Feet) 1086 | 12. SURFACE WINDS (Knots) 9 KNOTS | 13. VISIBILITY (Feet/Miles) UNLIMITED | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER NONE | | 16. JUMPER'S POSITION IN ACFT #2 LEFT DOOR | |
| 17. TYPE PARACHUTE (Specify) MC1-1C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 55 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | Broken Control Line Bridle | |
| 20. TYPE OF RESERVE T-10 RESERVE | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY NONE | | |
| 31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.) The jumper's exit was normal. During the jumper's second point of performance, he noticed that the left control line had broke free of the canopy. He also observed large holes in the canopy. The jumper compared his rate of decent with other jumpers, it was about the same. The jumper did not activate his T-10 reserve. The jumper landed safely without injury. An inspection of the parachute revealed that the control bridle broke at a point approximately 14 inches from where it is attached to radial seam 6. Further damage was found on gores 5 and 6, section 2, ripped; gores 13, 14, 15, and 16, sections 2 and 3 ripped; gores 17 and 18 sections 2 and 3, small holes. No burns were detected on the control line or control line bridle. | | | | | |
| 32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.) A 100 percent technical rigger inspection was performed on the parachute. The control line and the control line bridle were reassembled to determine whether the control line adjustment was proper. The adjustment on the control line were correct. It was determined that the left control line bridle broke because it apparently received the initial opening shock of the canopy instead of the suspension lines. The canopy damage resulted from the control line and reefing ring making contact with the canopy during the process of breaking free from the control line bridle. All required modifications/alterations to the parachute are in compliance. Excessive aircraft speed may have been a contributing factor to this malfunction. As in the late 80's, restricting the use of the MC1-1C parachute to rotary wing aircraft may be the interim solution until the engineers resolve the equipment problem. | | | | | |

CONTINUED ON NEXT PAGE

ANALYSIS: 45

WHAT WAS THE MALFUNCTION?

1. Broken control line.
2. Canopy damage.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Possible control line length.
2. Excessive aircraft speed.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Proper in-service procedures.
2. Aircraft briefings.

| I. GENERAL | | | | | |
|---|---|--|--|--------------------------------------|-------------------------|
| 1. UNIT BEING AIRLIFTED | 2. DEPARTURE AIRFIELD | 3. DATE | 4. TYPE ACFT C-130 | 5. ACFT SER NO. | |
| 6. OPERATION/EXERCISE | | 7. DZ AND LOCATION | | 8. DATE AND TIME | |
| 9. ACFT ALTITUDE (Feet) 1250 FT AGL | 10. ACFT SPEED (Knots) 125 KNOTS | 11. DZ ELEVATION (Feet) | 12. SURFACE WINDS (Knots) 2 KNOTS | 13. VISIBILITY (Feet/Miles) CLEAR | |
| II. PERSONNEL | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | 15. EQUIPMENT WORN BY JUMPER ALICE PACK/M1950 | | 16. JUMPER'S POSITION IN ACFT 2ND | |
| 17. TYPE PARACHUTE (Specify) T-10C | 18. TYPE MALFUNCTION | | | | 19. NO. JUMPS 49 |
| | SEMI-INVERSION | INVERSION | CIGARETTE ROLL | OTHER (SPECIFY) | |
| | PILOT CHUTE | BLOWN SECTION | BROKEN SUSPENSION LINE | BAD EXIT | |
| 20. TYPE OF RESERVE TROOP CHEST | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY BRUISED BACK | | |

31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.)

Once jumpers started exiting from the C-130, the malfunction team observed a reserve parachute activation. The jumpers reserve canopy was fully inflated and functioned properly. From the viewpoint of the malfunction team, the jumper looked as if he was decending with his legs entangled in the suspension lines. The jumper remained in this position until landing.

32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.)

An on-site investigation of the main canopy showed no signs of damage. When questioning the jumper, he stated that when exiting the aircraft, he was falling forward. When he checked his canopy, both legs were entangled in the suspension lines. He also noticed a jumper over his canopy and another one starting to bounce off his canopy as well. He could not judge his rate of decent with fellow jumpers so he immediately activated his reserve utilizing the down and away method.

CONTINUED ON NEXT PAGE

ANALYSIS: 46

WHAT WAS THE MALFUNCTION?

1. Incident caused by jumper error.
2. Leg entangled in suspension lines.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Door exit/flipped through risers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Proper tight exit.
2. Proper body position.

TAR&M/SA VOL II

| I. GENERAL | | | | | | | | | | | |
|--|--|---|--------------------|--|--|--------------------------------|--------------------------------------|--|--|-----------------|--|
| 1. UNIT BEING AIRLIFTED | | 2. DEPARTURE AIRFIELD | | 3. DATE | | 4. TYPE ACFT C-130 | | 5. ACFT SER NO. | | | |
| 6. OPERATION/EXERCISE | | | 7. DZ AND LOCATION | | | 8. DATE AND TIME | | | | | |
| 9. ACFT ALTITUDE (Feet) 800 | | 10. ACFT SPEED (Knots) 130 | | 11. DZ ELEVATION (Feet) 387 | | 12. SURFACE WINDS (Knots) 5 | | 13. VISIBILITY (Feet/Miles) UNLIMITED | | | |
| II. PERSONNEL | | | | | | | | | | | |
| 14. NAME (Last, First, MI), GRADE, SSAN, & UNIT | | | | 15. EQUIPMENT WORN BY JUMPER LBE Ballistic Helmet M1950 M-16 | | | 16. JUMPER'S POSITION IN ACFT L27 | | | | |
| 17. TYPE PARACHUTE (Specify) T-10C | | 18. TYPE MALFUNCTION | | | | | | 19. NO. JUMPS 8 | | | |
| | | SEMI-INVERSION | | INVERSION | | CIGARETTE ROLL | | | | OTHER (SPECIFY) | |
| | | PILOT CHUTE | | BLOWN SECTION | | BROKEN SUSPENSION LINE | | | | STREAMER | |
| 20. TYPE OF RESERVE 24-FOOT | | 21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | 22. RESULTING INJURY BRUISED INSIDE UPPER ARM LEFT SIDE | | | | | | | |
| 31. DESCRIPTION OF MALFUNCTION/FAILURE/DAMAGE INCURRED (if more space is needed, continue on reverse.) Jumper exited the aircraft, counted to 400, and felt no opening shock. He then counted to 5000, looked up and saw what appeared to be a streamer. The jumper activated his reserve and deployed normally. He assisted the last two suspension line stows out of the pack tray. The jumper's arm was injured because he did not lower his M1950 weapons case. | | | | | | | | | | | |
| 32. CAUSE OF MALFUNCTION/FAILURE (if more space is needed, continue on reverse.) A 4-inch twig was found in the net on lines 13 and 15 holding them together and entangled in the second and third squares. It is possible that the twig was picked up off the ground during recovery procedures. The net was wrapped around the V-tab on line #20 causing the skirt canopy to remain closed. These actions may not have allowed the proper amount of air to properly inflate the jumper's main canopy. | | | | | | | | | | | |

CONTINUED ON NEXT PAGE

ANALYSIS: 47

WHAT WAS THE MALFUNCTION?

Possible streamer.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Debris in anti-inversion net.
2. Anti-inversion net hung on V-tabs.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Perform shakeout procedures.
2. Check shop cleanliness.
3. Observe during pack-in-process, gore packing and stowing net.
4. Pack in accordance with TMs.

**SUMMARY OF
SUPPLY AND EQUIPMENT DROPS**

2ND TRIANNUAL CY 96

| | PLATFORM LOAD | | SINGLE CONTAINER | | CDS | | LAPE | | TOTAL | |
|-----------------------------------|------------------|-----------|---------------------|-----------|--------------|-----------|-----------|-----------|--------------|-----------|
| Number of Drops | 1,692 | | 374 | | 2,138 | | 0 | | 4,204 | |
| Number of Malfunctions | 14 | | 5 | | 13 | | 0 | | 32 | |
| Percentage of Malfunctions | 0.83 | | 1.3 | | 0.61 | | 0 | | 1.1 | |
| Malfunction Phases: | IP | EF | IP | EF | IP | EF | IP | EF | IP | EF |
| Extraction | 1 | 4 | 2 | 0 | 0 | 2 | 0 | 0 | 3 | 6 |
| Deployment-Recovery | 5 | 4 | 3 | 0 | 8 | 3 | 0 | 0 | 16 | 7 |
| Release | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

IP-Incorrect Procedures

EF-Equipment Failure

**SUMMARY OF
PERSONNEL PARACHUTE JUMPS**

2ND TRIANNUAL CY 96

| | | C-130 | C-141 | OTHER | TOTAL |
|------------------------|-----------------------------------|---------------|---------------|--------------|---------------|
| Nonmaneuverable | Number of Deployments | 43,822 | 26,645 | 1,888 | 72,335 |
| | Number of Malfunctions | 4 | 0 | 0 | 4 |
| | Percentage of Malfunctions | 0.009 | 0 | 0 | 0.005 |
| Maneuverable | Number of Deployments | 10,776 | 1,902 | 3,316 | 15,994 |
| | Number of Malfunctions | 6 | 0 | 0 | 6 |
| | Percentage of Malfunctions | 0.06 | 0 | 0 | 0.04 |
| Free-Fall | Number of Deployments | 3,386 | 42 | 2,360 | 5,788 |
| | Number of Malfunctions | 1 | 1 | 3 | 5 |
| | Percentage of Malfunctions | 0.03 | 2.4 | 0.13 | 0.09 |
| Total | Number of Deployments | 57,984 | 28,589 | 7,564 | 94,137 |
| | Number of Malfunctions | 11 | 1 | 3 | 15 |
| | Percentage of Malfunctions | 0.02 | 0.003 | 0.04 | 0.02 |

**SUMMARY OF
PERSONNEL PARACHUTE MALFUNCTIONS**

2ND TRIANNUAL CY 96

| | NON- MANUEVERABLE | | MANUEVERABLE | | FREE-FALL | | RESERVE | |
|----------------------------|----------------------|---|--------------|---|-----------|---|---------|---|
| | | * | | * | | * | | * |
| Number of Deployments | 72,335 | | 15,994 | | 5,788 | | 7 | |
| Number of Malfunctions | 4 | | 6 | | 5 | | 0 | |
| Towed jumper | 0 | | 0 | | 0 | | 0 | |
| Broken Static Line | 0 | | 0 | | 0 | | 0 | |
| Entanglement | 0 | | 1 | | 0 | | 0 | |
| Failed to Inflate | 1 | | 0 | | 3 | | 0 | |
| Inversion | 0 | | 0 | | 1 | | 0 | |
| Pilot Chute | 0 | | 0 | | 0 | | 0 | |
| Semi-Inversion | 0 | | 0 | | 0 | | 0 | |
| Suspension Lines | 0 | | 2 | | 0 | | 0 | |
| Other | 2 | | 3 | 2 | 1 | | 0 | |
| Percentage of Malfunctions | 0.005 | | 0.04 | | 0.09 | | 0 | |
| Fatalities | 0 | | 0 | | 0 | | 0 | |

*Injuries

**INJURIES OCCURRING ON PARACHUTE OPERATIONS
AS REPORTED ON DA FORM 285**

APRIL - JUNE 96

| | C-130 | C-141 | UNKNOWN | TOTAL |
|---------------------------|-------|-------|---------|-------|
| PLF-Related Injuries | 10 | 3 | 12 | 25 |
| Main Malfunction | 0 | 0 | 0 | 0 |
| Misrouting of Static Line | 0 | 0 | 0 | 0 |
| Entanglements | 1 | 1 | 8 | 10 |
| Tree Landings | 0 | 0 | 1 | 1 |
| In Aircraft | 0 | 0 | 0 | 0 |
| Hazards on Drop Zone | 1 | 1 | 0 | 2 |
| Other | 0 | 0 | 1 | 1 |
| Insufficient Information | 0 | 0 | 3 | 3 |

AIRCRAFT MALFUNCTIONS

These malfunction reports are not included in the statistical data nor reflected in the percentage of malfunctions. All aircraft systems malfunctions which may have led to an abort or no-drop are constantly reviewed and analyzed for repeat or recurring trends and solutions. Corrective actions are recommended through Air Force maintenance systems.

| PERSONNEL DROPS | |
|-------------------------------------|---|
| Improperly operating doors or ramps | 0 |
| Static line retriever | 0 |
| SUPPLY AND EQUIPMENT DROPS | |
| Rail locks | 0 |
| Improperly operating ADS | 1 |
| Improperly operating doors or ramps | 0 |
| Release mechanism | 0 |
| Electrical system | 0 |
| CONTAINER DROPS | |
| Rollers | 0 |
| Type XXVI gate | 1 |
| Static line retriever | 2 |
| TOTAL | 4 |

HOT POOP

Effective 1 October 1997 all ARMY loads will require an inspection by a qualified inspector prior to the arrival of the supporting aircraft. Inspections will be recorded on a Sling Load Inspection Record (DA Form number to be assigned). Qualifications for inspectors are:

- o E-4 or above AND a graduate from one of the following courses:**
 - Pathfinder.**
 - Air assault.**
 - Sling Load Inspector Certification.**

Rigging and inspection of loads and qualifying inspectors are the supported units responsibility.

The Sling Load Inspector Certification (SLIC) Course is a one week course being taught at the US Army Quartermaster School effective September 1996. Anyone desiring copies of the Sling Load Inspection Record or desiring additional information or seats in the SLIC Course, contact Mr. Don Lynn, DSN 687-4185 or SFC Rumley, DSN 687-5889.

HOT POOP

23 October 1996

Airborne and Field Services Department
US Army Quartermaster Center and School

MEMORANDUM FOR RECORD

SUBJECT: Minutes of the Tri-annual Malfunction Review and Safety Analysis Board Conducted 23-24 October 1996

1. CW4 John Mahon, ABN/FS Dept, convened the board, made administrative remarks, and urged attendees to update their entries on the warrant officer and message address rosters. New assignments were announced: MSGT Al Wagner as the Air Force Liaison to the Airborne and Field Services Department, and CW3 Thomas Snoddy to the US Army Natick, RD&E Labs.
 2. Ted Dlugos, Director, ABN/FS Dept, announced MG Glisson, a parachute rigger, as the new Quartermaster General. Also, the army is moving to use less paper in the future. This is reflected most recently in fewer copies of many of our working papers, but will be more apparent as CD Rom replaces paper copies of manuals. Be sure that your unit has the computer capability to receive, store and reproduce information.
 3. MAJ Sean Bermingham announced that the ABN/FS Department has Mobile Training courses available for the following: Airdrop Load Inspector Certification, Automatic Ripcord Release Assembly, EOD Parachute Rigger, Fabrication of Airdrop Loads, Ram-Air Parachute Systems, and Sling Load Inspector Certification. Consider these courses in your long-range planning, and request them through the Army Training Requirement and Resource System (ATRRS). We will be happy to discuss short term needs with you. A fact sheet has been provided with the POCs.
 4. Don Lynn, Chief, Sling Load Office, ABN/FS Dept, announced that sling loading is the responsibility of the Army Quartermaster Center and School effective April 96. FM 10-450-3 gives standardized training requirements, inspection requirements, an inspection form, and inspector qualifications.
 - a. Effective 1 October 97, all Army sling loads must be inspected by qualified inspectors. Air Assault and Pathfinder Schools are acceptable alternatives to the Sling Load Inspector Certification Course. We also have a sling load training support package you can use to train your people.
 - b. The next sling load JTAG is 13-14 November 96 at Fort Campbell, KY.
 - c. POC for the sling load class at Fort Lee, VA is Mr. Don Lynn, DSN 687-4185 or SFC Rumley, DSN 687-5889.
 5. CW3 Tom Snoddy, Natick RD&E Center, affirms Natick's interest in testing the MC1-1C parachute. At present, this parachute should not be used at an aircraft speed of 100 knots or more. Aircraft speed is a known factor in canopy damage. The MC1-1C has always had a high maintenance requirement. Use at greater speeds is not necessarily hazardous, but will result in parachute damage. Several units using the MC1-1C expressed concern that the restriction affects mission capability. Replies by CW3 Snoddy and SOCCOM Rep Bill Mathews advise units to pack these parachutes carefully, and to let problems be known
-

-
6. Gary Thibault, Natick RD&E Center, stated that the final Cargo and Personnel Airdrop Survey report is available at this meeting or from Natick and encouraged units to make use of it.
 7. Dick Harper, ATCOM representative, offered procedures for installing the AR2 on the MC4, announced that air packs are soon to be delivered to units authorized to receive them, that first production inspection is underway on the PiR2, and that EFTC shortages and defects are being addressed .
 8. CW4 Mahon, ABN/FS Dept, explained that the new Soldier Systems Command will absorb ATCOM. Their function will be moved to Natick. A new Project Manager for Air Items is established. CW5 Mason advises that over 450 items are still managed by DLA and that they may continue to be.
 9. TSGT B. K. Mitchell of 18 FLTS, Hurlburt AFB, FL reminds us that towplate operations are suspended until defective links can be replaced.
 10. GSGT Hanson of the Marine Corps systems advises that the manual, hard copy and CD Rom, for the MC5 will be out soon.
 11. Congratulations to Chief Warrant Officer Lindo, Kemp, and Martel on their promotions to CW3.
 12. A total of 49 personnel and cargo malfunctions were analyzed by 153 attendees.

JOHN R. MAHON
CW4, QM
Airdrop Systems Technician

The RIGGERS Pledge

I will keep constantly in mind that until men grow wings their parachutes must be dependable.

I will pack every parachute as though I were going to jump with it myself and will stand ready to jump with any parachute which I have certified as properly inspected and packed.

I will remember that the other man's life is as dear to him as mine is to me.

I will never resort to guessing, as I know that chance is a fool's god and that I, as a rigger, cannot depend on it.

I will never pass over any defect, nor neglect any repair, no matter how small, as I know that omissions and mistakes in the rigging of a parachute may cost a life.

I will keep all parachute equipment entrusted in my care in the best possible condition, remembering always that the little things left undone cause major troubles.

I will never sign my name to a parachute inspection or packing certificate unless I have personally performed or directly supervised every step and am entirely satisfied with all the work.

I will never let the idea that a piece of work is "good enough" make me a potential murderer through a careless mistake or oversight, for I know that there can be no compromise with perfection.

I will keep always a wholehearted respect for my vocation, regarding it as a high profession rather than a day-to-day task, and will keep in mind constantly my grave responsibility.

I will be sure——always.
